Package 'ordinalGOF'

April 24, 2026

Title Goodness-of-Fit Tests for Ordinal Regression Models

Version 0.1.0

Description Provides goodness-of-fit tests for ordinal regression models, including the Fagerland-Hosmer ordinal test, reproducing same output as 'Stata'. Supports polr(), vglm(), and binary glm() models. See Fagerland and Hosmer (2013) <doi:10.1002/sim.5645> and Fagerland and Hosmer (2017) <doi:10.1177/1536867X1701700308> for details.

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Encoding UTF-8

RoxygenNote 7.3.3

Imports dplyr, magrittr, MASS, VGAM

Suggests spelling

Language en-US

URL https://github.com/Funto-Aladekomo/ordinalGOF

BugReports https://github.com/Funto-Aladekomo/ordinalGOF/issues

NeedsCompilation no

Author Oluwafunto Aladekomo [aut, cre], Evan Kwiatkowski [aut]

Maintainer Oluwafunto Aladekomo <oluwafunto.a.aladekomo@uth.tmc.edu>

Repository CRAN

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Contents

ordinalGOF *Goodness-of-Fit Test for Ordinal Regression Models*

Description

Tests the goodness of fit for ordinal regression models, reproducing results equivalent to 'Stata's output. Supports models from `polr()`, `vglm()`, and binary `glm()`.

Usage

```
ordinalGOF(
  model,
  data,
  catvars = NULL,
  g = 10,
  test = c("hl", "pr.chi2", "pr.dev", "lipsitz"),
  ties = c("stata", "sorted", "equal"),
  show_table = FALSE
)
```

Arguments

`model`	A fitted model object. Supported classes: `polr` (MASS), `vglm` (VGAM), or `glm` (stats, binomial family).
`data`	A data frame used to fit the model.
`catvars`	Character vector of categorical variable names. Required only when `test = "pr.chi2"` or `test = "pr.dev"`.
`g`	Integer. Number of quantile groups (default: 10).
`test`	Character. The test to perform. One of `"hl"` (default), `"lipsitz"`, `"pr.chi2"`, or `"pr.dev"`.
`ties`	Character. Tie-breaking method for grouping. One of `"stata"` (default), `"sorted"`, or `"equal"`. `"stata"` reproduces 'Stata's behavior.
`show_table`	Logical. If `TRUE`, prints the observed/expected frequency table. Default is `FALSE`.

Value

An object of class `htest` containing:

statistic The chi-squared test statistic.

parameter Degrees of freedom.

p.value The p-value.

method A character string naming the test used.

Examples

```
library(MASS)
data(housing, package = "MASS")
m <- polr(Sat ~ Infl + Type + Cont, data = housing, Hess = TRUE)
ordinalGOF(m, data = housing, g = 5, test = "hl", ties = "stata")
```

Index